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ABSTRACT

A project implemented by a school of nursing and social work at one university and evaluated by a school of education at another is described. The project, funded by the National Institute of Mental Health, trained 128 personnel from 32 nursing homes in strategies to raise the mental status of residents. Evaluation results indicated a desired measured effect upon the trainees, homes, and residents. The project serves as a model for salutory training in an allied field. This helps to place education within a larger context and increases an awareness of the availability of a researcher's skills toward education as a lifetime enterprise. (Page 21 may reproduce poorly.) (Author)

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THE UTILIZATION OF EDUCATIONAL RESEARCH IN AN ALLIED FIELD

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Presented at the American Educational Research Association meeting, Chicago, Illinois, 1974.

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The Utilization of Educational Research in an Allied Field [1]

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ABSTRACT

This paper presents a project implemented by a school of nursing and social work at one university and evaluated by a school of education at another. The project, funded by N.I.M.H., trained 128 personnel from thirty-two nursing homes in strategies to raise the mental atatus of residents. Evaluation results indicated a desired measured effect upon the trainees, homes, and residents; $p < .05$.

The project serves as a model for salutory training in an allied field. This helps to place education within a larger context and increases an awareness of the availability of a researcher's skills toward education as a lifetime enterprise.

The design, methodology and faculty of the MENTAL HEALTH IN NURSING HOMES TRAINING PROJECT[2] provided a rigorous opportunity for trainees to increase their knowledge, skills and resources in order to create a structure and a climate conducive to improving the mental health status of nursing home residents. Sponsored jointly by the Schools of Nursing and Social Work of Adelphi University, Garden City, Long Island, New York, this interdisciplinary, continuing education program consisted of three sequential course: "MENTAL HEALTH ANI GERONTOLOGICAL PARACTICE"; "GROUP PROCESS AND GROUP DYNAMICS"; and "TRAINING GROUP LEADERS". This series was repeated at different geographical locations on Long Island. To determine the efficacy of the MENTAL HEALTH IN NURSING HOMES TRAINING PROJECT, the Bureau of Educational Evaluation of Hofstra University, an agency totally independent from that of the project, constructed an evaluation design prior to the project's implementation.

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[1] Portions of this paper were presented at the Gerontological Society Convention, Miami Beach, Florida, November 1973 - Goldman and Woog.

[2] National Institute of Mental Health, Health Services and Mental Health Administration, Department of Health, Education and Welfare, Contract No. HSM-42-72-218.

The success of this NIMH project, as reported in this paper, was a result of a blend of planning, hard work, and maximum cooperation. Two schools, the School of Nursing and the School of Social Work within one University, Adelphi, jointly conceived, wrote and implemented the project. A third school, School of Education from another University, Hofstra, conducted the Evaluation. In addition, selected faculty, consultants, and a Steering Council from community mental health centers, long term care institutions, and concerned governmental agencies were instrumental in the planning and implementation of the project. This cooperation cannot be minimized. It was from this premise maximizing interpersonal relations in cooperation in order to have a direct beneficial effect upon nursing homes as institutions and residents of those homes as people, that made this project possible.

The problem: Although Nassau and Suffolk counties on Long Island have in the past been considered largely a region of young people, the aged have become one of the fastest growing segments of the population. As of 1970, there were 289,609 persons in the bi-county region over 60 years old. Furthermore, the number of institutionalized aged is rising at a faster rate. For the most part they are crowded into both proprietary and public nursing homes, with proportionately fewer hospitalized in State Department of Mental Hygiene facilities. The increasing numbers of institutionalized aging coupled with the shifts caused by overcrowded facilities have added to the stressful experience of the aging and have affected the nature and quality of their care.

In order that persons residing in long-term care facilities can be supported toward the maintenance and retention of levels of healthy functioning they must be approached, like people at other stages of life, as individuals and their problems dealt with accordingly. For example, there is the aged person who converts his feelings of helplessness, inadequacy and impotence into controlling, manipulaitve and exploiative behavior. Personnel in the facility should be trained to prevent and/or

intervene in these and other well-known defensive patterns. The practitioners need to assume the role of patient advocate on behalf of his needs and rights as a human being. For the mentally alert and/or ambulatory resident, needs go beyond physical security, watching television and "busy work" activities. One needs little experience in a long term care setting to becom aware that although residents live together, they have little meaningful contact. This is not surprising when one considers that many people live a lifetime without experiencing tenderness, closeness, and intimacy. In order to rectify these deficiencies, both in residents and staff, a whole new approch was obviously indicated.

The usual caretakers and decision makers at all levels need to become aware of their own attitude, feelings, and behavior towards residents and their families. They need to realize that (1) by not being in touch with their own feelings, or (2) due to lack of knowledge about the aging process, and/or failure to apply knowledge, they inadvertently have increased the patient's dependency, psycho-social decline and physical impairment.

Another reason for considering the need for a training program is staff relationships. There is a need to explore and help resolve intergroup conflict caused by the racial and ethnic composition of staff and patients. For example, in Suffolk County there are both black and white registered and licensed practical nurses, whereas nurse aides are predominantly white. In Nassau County, on the other hand, the registered and licensed practical nurse group is predominantly white, while the nurse aides are mainly black. In some nursing homes the patient population is predominantly Jewish, the non-professionals are black and the professionals are white. The result often has been a breakdown in communication not only between patient and staff, but also within staff. Misunderstandings due to differences in culturally prescribed modes of response to illness, aging, and death are frequent.

In addition, it should be noted that with the exception of a few of the larger agencies, most of the nursing homes have no organized in-service education departments. Most staff members receive little or no training, either in terms of deepening their understanding of the resident and his experience or in theory and practice skills necessary to improve service.

Finally, while it is often reported that interdisciplinary cooperation is necessary in order to deliver quality care, the practice falls short of the ideal. This training program demonstrated by its interdisciplinary planning, content, teaching methodology and its selection of trainees from all disciplines and levels, that indeed collaboration not only is possible but essential to the best utilization of all personnel for the eventual improvement of the mental health status of residents in nursing homes.

Planning: For four months, the full time Project Director was involved in planning and organizing the program; faculty selection and training; curriculum development, content and methodology; public relations and publicity; and selection of evaluation instruments in collaboration with the Bureau of Educational Evaluation of Hofstra University.

In order to achieve the program's goal to improve the mental health status of residents in long term care facilities by linking mental health, continuing education, and nursing homes, the director sought advice, support, and consultation. This began by meeting with a group of 20 Suffolk County nursing home administrators, a group of Nassau County recreational therapists. Notice of the training program was publicized early in the New York State Nurses Association, Long Island newsletter. Meetings were held with an executive of the Nassau County Mental Health Board and with the Older American Volunteer Committee. Paralleling these efforts a seven member consultant panel met for half a day. The panel consisted of a social sci-

entist, a psychologist, and a social worker (all from mental health agencies), a director of nursing and a nursing home administrator, a university social work faculty member, and a graduate social work student who works in a nursing home.

The above efforts culminated in a large Community Steering Coucil. Forty-eight persons agreed to serve on the Community Steering Council; and forty of these were present at the first two hour meeting held at the university. The Council represents the community relevant to this particular program and includes representatives of concerned governmental and voluntary mental health agencies, voluntary and proprietary nursing homes, several faculty of the training program, and older persons residing in nursing homes. While the overall task was to examine ways to continue the linkage between mental health, continuing education and nursing homes, the immediate task of this council meeting was to help publicize and recruit those teams of trainees who would fulfill, in fact, the aims of the program.[1]

The training program: framework

Having identified the problems and needs for mental health training, it was necessary to develop a working definition of mental health and an approach to facilitate change. The mental health practitioners on our team suggested careful attention to the therapeutic community model; at least to explore the social system of the long term care institution, at best to bring about positive change.

Much has been written about the therapeutic community in psychiatric institutions and of the utilization of the therapeutic community model in long term care

1. Some of the content of this paper, e.g., Planning, Framework, Course Descriptions, etc., has appeared in two earlier articles by Elaine B. Goldman. "An Educational Model in Continuing Education for Mental Health in Long Term Skilled Care for the Elderly", Mental Health: Principles and Training Techniques in Nursing Home Care, DHEW Publication No. (HSM) 73-9046, 1972, and "Mental Health Continuing Education: The Long Term Care Administrator as a Key Member of an Interdisciplinary Trainee Team", Education for Administration in Long Term Care Facilities,(ed.) Michael J. Stotts, Washington, D.C., Association of University Programs in Hospital Administration, April 1973, pp. 218-226.

institutions.[1,2] Concomitantly, mental health has been written about prolifically and defined in a variety of ways. This suggests that mental health does not mean the same thing to all people; it is at best a phenomenon difficult to conceptualize and more difficult to put into a few words. For the purposes of this training program, one needs to associate mental health with three words: mastery, fulfillment, and people. In order for an individual to be "mentally healthy", he or she needs to have: 1. a sense of mastery over what he or she is doing, thinking, and feeling; 2. a sense of being fulfilled or satisfied with what he or she is doing, thinking, and feeling; and 3. meaningful contact with people. We all know someone who is never satisfied with their accomplishments; we also know those who "master" or accomplish their goals and are satisfied but are unable to relate to another person in a meaningful way. Therefore, neither of these persons would be considered mentally healthy. With this description of three components necessary for mental health, one better understands the need for, and benefit of meaningful contact in a therapeutic community in long term care institutions, not only to the residents and their families, but to all those who work with the aged and disabled.

> "The therapeutic community is designed to discourage the socially withdrawn, isolated individual from continuing his patterns of living. When suffering with physical disability, overwhelmed with depression, inadequacy, the fear of and yet wish for death, he is most vulnerable to self-induced disability and loss of function disproportionate to pathology."[3]

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1. Charles Kramer and Jeannette Kramer, "Establishing a Therapeutic Community in the Nursing Home", Professional Nursing Home, (Sept., Oct., Nov. 1966 and Jan. Feb., April 1967) reprints available from the Kramer Foundation, 2 West Johnson Street, Palatine, Illinois 60067.
2. Michael Miller, "Synthesis of a Therapeutic Community for the Aged Ill", Geriatrics, Vol. 21, pp. 151-163; August 1966.
3. Ibid. p. 156.

The experience of the resident. The process of the training program focused on the experience of the resident in order to initiate and maintain meaningful contact. Trainees became sensitive to the experience of the older person, that is, what he perceives, interprets, and how he responds, by talking to an older person about himself and his experiences or by reading personal accounts of how older persons see themselves and their life situation. The program utilized techniques that simulated the experience of the older person and certain aspects of the aging process which evolved out of the framework which guided the training process. An example of a simulation technique used is as follows: By means of a specialized tape recorder[1] which provides delayed feedback of speech and a pair of goggles[2] which rotates the axis of the visual field, trainees were able to experience a simulated view of neuromuscular disability. When the tape recorder delays the trainee's speech sounds a fraction of a second, it caused the trainee to retard his rate of speech, increase his pitch and loudness, to falter his vocal rhythm and to misarticulate frequently. This is similar to the speech patterns of a person who is hemiplegic. When the trainee wore the goggles which contain an arrangement of mirrors which rotate the entire visual field 5° to 20° to the left or right, he walked slowly with hesitation. He also had difficulty in maintaining his balance and would reach out for someone or something to hold onto, or would grasp the wall if it was within reach.

This exercise created increased sensitivity and constructive attitudes towards the disabled older person. The demonstration helped to impart certain facts about the nature of the disability and how this type of disability produces an illusion that the subject is suddenly confused or stupid. Trainees were helped to become

1. The specialized tape recorder was purchased from Lomask Engineering, West Woods Road, Sharon, Connecticut.
2. The specialized goggles were purchased from Pentagon Device Corporation, 21 Harriet Drive, Syosset, New York 11791.

aware of resident's behavioral changes due to sensory distubances, neurological and neuro-muscular dysfunctions. As anticipated, these teaching tools engendered many thoughts and feelings on the part of trainees. Some related what they had experienced to residents who they know and care about. Some trainees spoke about heir own process of aging and their own feelings of loneliness. One administrator vowed to have her Board of Directors and the architect (who was designing her new wing) experience what she did during the exercise. Some of the lessons learned from these exercises were: 1. individuals differ in their response to imposed sensory distortions; 2. a perceptual disability affects the total person and his effect on others; 3. handicapped persons have an inordinate need for personal contact with someone who is aware of his experience; and 4. recovery of normal function was facilitated on the part of the trainee by active movement.[1]

The training program: sample.

The number of trainees from the thirty-two nursing homes ranged from one to ten with a median of four. The total number of trainees was 128. About one-half of the trainees were nurses of some type. About one-fourth of the trainees were categorized as administrators. The other one-fourth of the trainees included almost all conceivable non-resident adults who could be found in a home.

Given the scope of the project, thirty-two nursing homes, 128 trainees, and 6058 nursing home residents distributed over an area of more than 4,000 square miles with a population of greater than three and a half million residents, both the project, with its relatively short implementation time, less than eight months, and the evaluation designs were ambitious. Yet, all aspects, both general and specific of

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1. Albert Dinnerstein, Ph.D., and Milton Lowenthal, M.D., "Teaching Demonstrations of Simulated Disability", Archives of Physical Medicine and Rehabilitation, Vol. 49, March 1968. pp. 167-169.

the training and evaluation, were meticulously carried out.

The training program model. The training program consisted of three sequential courses "MENTAL HEALTH AND GERONTOLOGICAL PRACTICE IN NURSING HOMES" (one day a week for eight weeks); "GROUP PROCESS AND GROUP DYNAMICS" (one half day for eight weeks); and "TRAINING GROUP LEADERS" (one half day for eight weeks).

The first course, "MENTAL HEALTH AND GERONTOLOGICAL PRACTICE IN NURSING HOMES" offered trainees an opportunity to grasp the relationship between sociological, psychological and physiological phenomena of aging. Emphasis was placed on maintaining optimal functioning of residents through a guided theoretical and practical assessment of, and intervention into, the psycho-social, physiological, and environmental aspects of aging. The intervention included effective utilization of internal and external resources. Structured exercises were utilized to promote clinical and interpersonal competence.

The second course, "GROUP PROCESS AND GROUP DYNAMICS" was an experiential group course designed to increase the trainee's effectiveness as a group member and as a group leader. Learning was achieved through the examination of the actual experience of the group. Trainees had an opportunity to: (1) increase their awareness of their feeling experiences, and their reactions to and impact on others, (2) become more effective in expressing what is going on with themselves, (3) become acquainted with processes common to all kinds of groups, (4) experience those forces which influence group behavior, and (5) practice intervention.

The third course, "TRAINING GROUP LEADERS" was a continuation of "GROUP PROCESS AND GROUP DYNAMICS". Trainees who were not leading group needed to select a group to work with on a weekly basis. The groups selected were comprised of either residents, family, staff, or a mixture of these. The purpose of each group was decided by the group leader and/or the group members. In this experiential group course, there was

discussion of the trainee's group work as well as an examination of the actual experience of the group.

This 24 week training program model was offered four times during the one year training period in various long term care institutions in different locations on Long Island. This enabled participation by nursing home personnel who live and work as far as 90 miles from the university.

Consideration was given in the design of the courses to make it possible for each participant to become more effective in what he or she is doing and happier in understanding the why as well as the how of human behavior. Training was carried out predominantly in small group work with a mixture of trainees in each small group. These group experiences helped participants to deal with inter-personal and group living problems with depressed, regressed, confused patients and their families. In addition, these experiences helped in exploring and resolving inter-group conflict caused by racial, ethnic and socio-economic composition of staff and patients. In order to accomplish all this, relevant findings were utilized from sociology, social work, physiology, psychology, psychiatric nursing, group work, and adult education. Participants received a bibliography and a working library of reprints and reports selected for relevance and clarity. Participants also purchased several paperback books which were required reading.

This model of mental health continuing education included structured and unstructured experiences which facilitated personal growth and the transfer of learning to the long term care setting. An important goal was to affect change in the trainee's behavior at work. The ripple effect built into the program also helped change the behavior of personnel who were not in the training program. Ultimately, all those who came into contact with residents, including relatives, became part of the therapeutic community and helped re-humanize the lives of residents. The training staff

reinforced the idea that residents are a source of meaningful human contact to each other when the structure and the climate and personnel foster this kind of relatedness.

In order to foster this planned change, the training program provided participants with the opportunity to: 1) become aware of their attitudes toward themselves and toward older persons; 2) develop authentic relationships; 3) deal openly with conflict; and 4) organize and lead groups of residents.

Evaluation: introduction.[1] The evaluation design included trainee evaluation and impact evaluation. Of the thirty-two participating homes, twenty-seven were included in the "Impact" phase of the evaluation design. Impact evaluation refers to that area of evaluation which is conducted on-site and deals specifically with the clients-residents, of the training rather than the trainees. The homes not included were not so because at the time of the pre-testing, major structural changes were under-way, wherein the residents were not available, or only one trainee participated in the project.

The size of the nursing homes had great variability. The range of possible residents was from 16 - 1000, with a median of 150 and a total of 6,058. The range of possibly affected residents was 10 - 83, with a median of 55 and a total of 1185. This data suggests the wide scope of the project. When one examines the number and diversity of the trainees, the assertion of the wide scope of the project is reinforced.

Evaluation: Trainees. In order to assess the effect of the project training upon those directly trained, two formal pre-post strategies were employed; attitude-affective and knowledge-cognitive.

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1. A complete report of the evaluation including all forms and instruments is available. Woog, Pierre, Evaluation Report of National Institute of Mental Health #HSM 42-72-218, "Training Project on Mental Health in Nursing Homes", 1972-1973. Bureau of Educational Evaluation, Hofstra University, Hempstead, N.Y. 1973.

To measure attitudinal change all trainees were given an attitudinal test upon entering the project. Those who went through all three courses, thirty-nine, were administered the same test as a post-testing instrument. The time lapse between pre and post testing was approximately six months. The result of this strategy was a limited number of post test measurements;only those trainees who had completed all three courses. This constraint was imposed for three reasons. First, durable attitudinal changes take time. Second, the primary focus of the first course was cognitive while the primary focus of the two subsequent courses was affective. Third, because the same test was used pre and post, maximum time between testings was necessary in order to minimize learning from the pre-test. It was hypothesized that attitudes would positively change to a significant degree.

To measure cognitive change the evaluation team and the trainees constructed pre-post knowledge tests which were congruent with the desired areas of knowledge of the project. Two equivalent form tests were constructed and used as a pre-post design. All trainees were administered the pre-test at the initial training session and were administered the post test at the last session of the first course. The intervening time was eight weeks. It was hypothesized that knowledge would increase to a significant degree.

Attitudinal: To measure positive change in attitudes toward elderly people in general, the "Attitudes Toward Old People Scale"[1] was utilized. Evidence of the validity of the instrument is to be found in the Kogan article. Odd-even reliability indicies ranging from .66 to .83.

In using the scale, testees are asked to respond to a total of thirty-four

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1. Kogan, N. "Attitudes Toward Old People: Development of a Scale and Examination of Correlates," Journal of Abnormal and Social Psychology. 62: 4-54, 1961.

statements; seventeen of which are positively stated and seventeen of which are negatively stated. Each statement is of the Likert-type with responses varying from "strongly disagree" to "strongly agree". Score values per item range from one to seven. The higher the total score the less positive the attitude toward elderly. The lower the total score the more positive the attitude. Scores can range from 34 to 238.

Table 1 "Results of Pre-Post Attitudes Toward Old People", reports pre and post means, standard deviations, number of respondents, and resultant t values for those groups of trainees (two) who went through all three training courses.

TABLE 1

RESULTS OF PRE-POST ATTITUDES TOWARD OLD PEOPLE

Group	Number of Respondents	Pre-Mean	Post-Mean	Pre Standard Deviation	Post Standard Deviation	Correlation Between Pre Post	Resultant t value
I	20	112.00	102.50	11.724	11.876	.701	3.457*
II	11	108.36	95.00	18.699	13.267	.649	2.931*
Total	31	110.71	99.84	15.021	12.626	.654	4.570*

* $p < .05$[1]

These results support the hypothesis that significant positive change in attitude, as measured, would result from training in the program. All tested t values were well over the critical level. It is interesting to note that the correlation between pre and post testings were also significant. This would suggest that the increase in positive attitude was somewhat uniform and offers further evidence of the reliability of the instrument. When one considers the population of the trainees, most of whom are career and professionals in the area of the aged, a significant

1. All hypotheses were tested at the .05 level of confidence and were all "one-tailed."

positive change toward their professional clients is quite an accomplishment.

The project demonstrated a significant positive change in attitude, as measured, toward the elderly on the part of the trainees.

Cognitive: In order to assess the cognitive growth of trainees in the area of the elderly a "tailor-made" pre and post test was constructed by those who ultimately would be involved in the training with the professional assistance of the evaluation team.

On October 12, 1972, the evaluation team, the project staff and the trainers met for a day in order to construct the cognitive test. This day was followed-up by meetings among trainers in order to generate test items.

The goal for the day was two-fold. First, instruction on the part of the evaluation team was done in order that the trainers would understand and be able to apply test construction methodology that would best result in content validity for the test. Second, the trainers would develop a test blueprint that would reflect their perception of the universe of knowledge to be explored in the project and generate sample items that would represent this universe for testing purposes.

The test was constructed in such a manner that it would be impossible to "teach for the test." This was done by making sure that trainers only constructed limited segments of the test, that the evaluation team edited all items, that the evaluation team was in sole possession of the tests, and that two different tests, pre- and post, were constructed.

The entry point to constructing the tests was a list of area contents-content dimensions, that were listed in the original proposal. These are as follows:

- Attitudes toward aged.
- Physiology of aging.
- Social-psychological aspects of aging.

- Institutionalization and institutional change techniques.
- Filial and spouse relationships - feelings of guilt, dependency, etc.
- Community resources.
- Sex and aged persons; biological, psychological and social differences.
- Death and dying - family and staff crises: stages of deterioration, institutional patterns.
- Economic support systems - Medicare and Medicaid.
- Mentally impaired aged, and techniques to prevent and/or alleviate.
- Participatory government - decision making via resident input.
- Reality orientation.
- Interdisciplinary team: clinical specialist and consultation.

These thirteen content dimensions were finally reduced and synthesized to four and dimensions of cognitive process, four, were established. Thus, a four by four blueprint was constructed and each dimension was weighted as compared to others by the degree to which the group felt it was important. Table 2 - "Cognitive Tests Blueprint" shows what the final blueprint looked like:

TABLE 2

COGNITIVE TESTS BLUEPRINTS

Cognitive Process Dimensions		A Recall 10%	B Analysis 30%	C Synthesis 30%	D Evaluation 30%	Total
Content Dimensions	% weights					
I Attitudes	10	2*	4	4	4	14
II Interpersonal Relationships	30	4	14	14	14	46
III Institutional Operations - Internal and External	30	4	14	14	14	46
IV Social, Psychological of Physiological Aspects of aging	30	4	14	14	14	46
TOTAL		14	46	46	46	152

* Number of items to be generated per cell.

Once this blueprint was constructed the trainers were grouped by content dimension in order to generate specific items to accommodate the blueprint cells. This work was continued independently by the groups so that they might make use of available literature within the content dimension.

By the following week all trainer groups sent their items to the evaluation team where they were edited and typed on five by eight index cards and also cataloged by cell. From each cell an equivalent number of items were randomly selected in order to create two equivalent forms of the test; pre and post.

Each pre test was given to each trainee group, four groups, at the initial session of the first course. The post test was administered at each closing session of the first course. Split half reliabilities were computed for each testing. These eight reliability coefficients ranged from .73 to .96 with a median of .88. Table 3 "Results of Pre Post Cognitive Tests" reports the number of trainees taking both pre and, the means, standard deviations, correlations between pre and post tests, and the resultant t values for each training group and the total.

TABLE 3

RESULTS OF PRE-POST COGNITIVE TESTS

Group	# of Respondents	Pre Mean	Post Mean	Pre Stand. Deviation	Post Stand. Deviation	Corr.Bet. Pre&Post	Resultant t Value
I	31	48.78	53.42	6.4	7.1	.762	5.397*
II	27	51.15	57.22	5.2	4.9	.627	7.073*
III	26	48.96	54.38	9.8	10.2	.835	4.708*
IV	16	50.88	56.31	5.1	1.8	.193	3.767*
Total	100	49.80	55.16	6.98	7.51	.751	10.468*

* $p < .05$[1]

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1 It should be noted that for the entire evaluation a probability level of .05 was utilized as specified prior to the collection of data. However, in many cases significance was found at a much more stringent level, but not reported. For example, in the case of the cognitive tests, all t values were in fact significant at $p < .01$. This was done based upon this author's belief that alpha levels should be set and tested at the time hypotheses are formulated; not after the fact.

These results support the hypothesis that significant positive cognitive learning would occur as a result of training. This was the case for all groups included in the project.

The project was able to bring about desired change, as specified, on the part of the trainees. Although this is commendable, it must be perceived as an evaluation of the "means" rather than the "ends". The important results of the evaluation must be within the context of the "ends"; namely, how were the institutions and the residents of those institutions affected by those trained? What was the measurable "impact" of the project?

Evaluation: impact. In order to assess the trainees' effect within their nursing home settings, trained observers conducted structured observations and interviews within a pre-post design. These evaluative measures were of two general types: those that examined the nursing home environment through the interviews with administrators and observations of the entire facility, and those that interviewed residents within the homes.

The instrument selected to evaluate the total environment was a modification of that used by Darrell Slover.[1] This instrument examines twelve dimensions and hypothesizes that the higher the score per dimension the better the home is in meeting the physical and psycho-social needs of residents. Modifications were made in order to accommodate dimensions not originally in the instrument, but specifically germane to the project's specified objectives; namely Group Functioning and Interagency Communication.

Although reliability and validity information was available per dimension, many of the reported indicies were deemed less than adequate. For example,

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[1] Slover, Darrell, Relocation of Long-Term Geriatric Patients, unpublished doctoral dissertation, University of Chicago, 1969.

reliabilities ranged from .15 to .87. As a result, the interpretation of the results of the instrument are more valid when one looks at the composite or total score, which is highly reliable. This should not be surprising, given the ambitiousness of the instrument. It was hypothesized that nursing homes would have a significantly positive change in their total score as measured by the "Impact Evaluation Instrument of Agencies" (IEI).

Residents were interviewed in order to determine whether, as a result of the project there was significant positive change in their mental status. Mental status was operationally defined as the scores from three well established measures of mental staus: Life Satisfaction Index (LSI)[1] long form, Mental Status Questionnaire (MSQ),[2] short form and Face-Hand Test.[3]

In order to generalize to all residents who might be affected by the project and to control for the disparate size of nursing homes the following procedure was adopted.

It was decided that a random sample of ten residents per nursing home would be adequate for evaluating the project's effectiveness. This number could control for the varying number of residents per home and yet could make random selection possible. Before sampling could begin, however, a population of residents had to be defined. It was naive to believe that all residents in all homes could be affected by the project because a portion of the residents were not functioning at a level at which much intervention was possible, nor could they communicate with the interviewers. Also, some nursing homes were so large, up to 1000 residents, that training four or five staff members could not possibly affect such a great number. Thus it was necessary to delineate a population that could be affected and was in contact with those personnel trained in the project.

All trainees in the first meeting of the initial course were given a form, "Contact Form for Agency Personnel", which asked them to list residents in

1. Neugarten, Havinghurst and Tobin, "The Measure of Life Satisfaction," Journal of Gerontology, 1961, 16, 134-143.
2. Kahn, Goldfarb, Pollach and Peck, "Brief Objective Measures for the Determination of Mental Status in the Aged," Journal of Psychiatric Gerontology, Oct. 1960, 326-329.
3. Op. Cit.

their agencies based upon the following criteria:

1. Those with whom you are in direct contact for at least ten minutes per week.
2. Those who while they may be memory deficit, forgetful, disoriented to time and place, be minimally able to socialize, do have the ability to perform with or without assistance, a few daily living activities, such as eating, dressing, shaving or bathing.[1]

These completed forms were collected the following week and constituted the population, 1185, of which ten were randomly selected for both pre and post testing. In addition to the ten randomly selected residents an additional five per home were also randomly selected as alternates. Thus, for each home there was a population of possibly affected residents from which pre and post independent random selections were made. This procedure insured that only residents that could be affected by the project were included, that the size of the agencies was controlled, and that by the random selection no bias on the part of the agencies could occur.

Once the impact evaluation was designed and instruments were selected, modified, and collated, observers were obtained and trained in use of the instruments. Observers were carefully selected. All had had previous experience in the field collection of data. All were professionals in an area that dealt in human service. All had previous formal training in interpersonal relations.

After training took place, mostly consisting of role playing techniques, teams of two were formed and given a folder for each nursing home which con-

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[1] Miller, Michael, "Synthesis of a Therapeutic Community for the Aged Ill", Geriatrics, 21, Aug. 1966, 151-163.

tained the impact evaluation instrument, the various resident interview forms and a list of randomly selected residents to be interviewed. Prior to the teams going to the agencies, each agency was explained the evaluation procedure by this author when they were given the "Contact Form for Agency Personnel". Upon arriving at an agency, one observer conducted the formal interview section of the impact evaluation instrument while the other conducted the formal observation segment. Then both observers conducted the resident interviews. This pattern was repeated for all four course cycles, pre, at the time an agency began participation in the project and was done, post by a different team of observers, all in June of 1973.

Because the impact evaluation was conditioned by the specific entry point of an agency's participation in the project, the time between pre and post imapct evaluation varied. For the first course cycle the elapsed time between pre and post was seven months, for the second, six months, for the third, three months and for the fourth, two months. Only for the first two cycles did trainees go through all three courses. These two constraints of the project, when added to general deterioration of residents in nursing homes, mitigated against any positive findings.

Evaluation: Nursing Homes. The fourteen dimensions of the Impact Evaluation Instrument (IEI) are as follows:

I. Resources
II. Cue Richness
III. Fostering Achievement
IV. Fostering Dependency
V. Recognition
VI. Stimulation
VII. Fostering Affiliation
VIII. Tolerance of Deviancy
IX. Warmth
X. Individualization
XI. Fostering Autonomy
XII. Physical Attractiveness
XIII. Group Functioning
XIV. Interagency Communication

Table 4, "Results of Pre Post Impact Evaluation Instrument" reports the pre and post means, standard deviations, number of agencies, correlation coefficient between pre and post and resultant t values for each dimension and the total.

TABLE 6

RESULTS OF PRE POST IMPACT EVALUATION INSTRUMENT

Dimension	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	Total
PRE Mean	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	18.513	22.778	[illegible]	[illegible]	1.246	61.037	39.259	28.0	402.222
POST Mean	65.000	7.185	15.242	9.519	20.593	28.259	17.926	22.741	[illegible]	7.815	1.333	62.370	[illegible]	[illegible]	430.333
PRE Stnd. Dev.	16.019	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	75.659
POST Stnd. Dev.	16.353	4.431	6.773	4.307	21.545	26.415	8.083	4.648	[illegible]	[illegible]	13.253	22.238	19.476	6.517	99.675
Number of Homes	27	27	27	27	27	27	27	27	27	27	27	27	27	27	27
t value	[illegible]	.4818	[illegible]	[illegible]	[illegible]	1.8730*	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.7574*
Corr. between pre & post	.3593*	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	.5972*

* $p < .05$

The results show that, overall, there was a significant positive change, as measured, in the nursing homes, although this change could not be isolated in the dimensions. This is probably a function of the impreciseness of each dimension in isolation. The finding does demonstrate that within a very short time, with the constraints already mentioned, institutional change did occur. This is certainly the major finding of the evaluation report.

To gain more insight into this finding, agencies were dichotomized into

1) those agencies for which trainees attended more than one course and at least five months lapsed between pre and post testing; nineteen agencies and
2) those agencies for which trainees attended but one course and less than three months lapsed between pre and post testing; eight agencies. On the average the mean total gain for the first group was 43.63 while the mean average gain for the second was -6.38. This further finding strongly suggests that the positive impact of the program showed tremendous gains as trainees took more courses and time was available to put into practice their new knowledge skill and attitude. Furthermore, it suggests that with more time and extended project support the agencies should continue to change in a positive direction.

Evaluation: Residents. Table 5 "Results of Pre-Post Resident Mental Status" reports the number of randomly selected pre and post residents, the means, standard deviations and resultant t values for each measure.

Table 5 on following page.

TABLE 5

RESULTS OF PRE - POST RESIDENT MENTAL STATUS

Measure	Pre # of Residents	Post # of Residents	Pre Mean	Post Mean	Pre Stand. Dev.	Post Stand. Dev.	Resident t Value
Face-Hand Test	255	231	7.56	8.09	3.44	3.17	1.736*
Mental Status Questionnaire	255	231	6.36	6.23	3.01	3.45	0.[illegible]
Life Satisfaction Index	255	231	16.27	16.59	4.42	4.78	0.756

* $p < .05$

Table 5 shows that a significant increase in residents' mental status was only found for the Face-Hand test; no significant increase was found for either the Mental Status Questionnaire nor the Life Satisfaction Index. There are three possible explanations for this mixed finding, although it should be strongly noted that this is not a negative finding.

First, it could be hypothesized that the measuring instruments were not precise enough to measure significant positive change that did in fact occur. This is possible, but dubious, for all three instruments have an enviable record of being valid enough to pick up such change. However, they may not have in this project.

The second possible explanation could be that the project has just not had time enough to affect this type of change and that given further

staff training and time, significant positive change in residents' mental status will result. This is certainly possible.

The third possible explanation may be found in the nature of the population. Two facts emerge. First the aged population in a nursing home is highly heterogeneous in terms of mental status and highly changeable. Second, general deterioration is a fact, although most difficult to deal with. Most simply stated, numerous residents die or are in a state of dying between any time lapse. At the risk of sounding "inhumane", it must be said that given these facts, a researcher's task is made more difficult when he hypothesizes positive change through systematic intervention in a well controlled design within the context of general personal deterioration. Thus, the expectation of significant positive change may be unrealistic. It just may be that the lack of negative findings is in fact "positive".

Conclusions: This paper examines a project which in an area, gerontology, is not generally considered specific to the educational enterprise. Hopefully, it serves as a model for the administration of large scale projects which work because of educational researchers applying their skills and working cooperatively with allied professionals. A project of this nature places education in a larger context and demonstrates what can be done with cooperation and careful arrangement. As education becomes more and more a legitimate lifetime enterprise, educational researchers will have to modify and/or re-tool to be of help in this larger enterprise.

This year the project has been refunded. Eighty more trainees and ten new nursing homes are now involved. Based upon evaluation recommendations and a sharing with observers, trainers and the Steering Council the project was modified so that all trainees have an opportunity to complete the entire series of courses, there will be at least a five month lag between pre and post impact testing, an additional course has been added, "Supervision of Group Leaders", and trainers are conducting on-site consultations.

Finally, a new proposal has been submitted with every expectation of being funded. This proposal, "Post Training Consultative Support in Nursing Homes", attempts to explore appropriate support models of mental health consultation in nursing homes.

> "The present task is to increase the results of the initial training project through alternative modes of consultative support in order to derive that (those) support model(s) which best increases resident's mental status. The hope is to develop beneficial models of consultative support which agencies can support through their own resources. The two universities, Adelphi: responsible for the consulting aspect of the study, and Hofstra: responsible for the research aspect, will combine their resources.
>
> The population will consist of forty nursing homes in the Long Island region with approximately 7,100 residents. Through random sampling of nursing homes and residents therein, nursing homes will be selected into five groups: three support models, a placebo and control. Type of support and time will be used as independent variables and a total of eighteen variables associated with mental status will form dependent variables. Eighteen two-way analyses of variance with a repeated measure, time, followed up by trend analyses will be employed to examine the effects of type of support and time. These analyses should give clarity to discovering which consultative model(s) best increases residents' mental status.
>
> ...Too often intervention by training, when successful, either peters out or any further effects are not known. Once in a while we hear of great successes and some time later the continuance of such success is non-existent or a blurb in the form of a public relations issuance is released which speaks in glowing terms of all the wonderful ramifications. This"happy data" is often found to be lacking in substance or at best, is superficial. When one weighs the rigor that is invested in initial training programs with the rigor of any follow-up to determine the durability of such training, the image of a see-saw with a professional football tackle at one end and a newborn infant at the other quickly comes to mind. The unspoken assumption seems to be something like this: 'Put all your resources into obtaining the funding, train and show immediate positive findings and go on to greener pastures.' In the last analysis, a training project can only be measured by the durability and generalizability of its positive findings. This is predicated, of necessity,

by the existence of positive findings but at the same time demands systematic follow-up. Fleeting successes in important matters, although heartening, do little to cure social and personal ills. Intervention must be evaluated by its long term results and strategies employed in doing this must be so specified so as they might be replicated. This proposal intends to do just this..." [1]

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[1] From Grant application to Department of Health, Education and Welfare, Public Health Service, "Post Training Consultative Support in Nursing Homes", Goldman & Woog.